MILITARY SPECIFICATION

CAPACITORS, FIXED, PLASTIC (OR METALLIZED PLASTIC) DIELECTRIC,
DC OR DC-AC, IN NONMETAL CASES, ESTABLISHED RELIABILITY
GENERAL SPECIFICATION FOR

This amendment forms a part of MIL-C-55514B, dated 9 September 1980, and is approved for use by all Departments and Agencies of the Department of Defense.

PAGE 1

TABLE I, add the following:

"

Symbol	Terminal
L ---	Lugs

"

PAGE 2

* TABLE II, add the following:

"

Symbol	Dielectric material	Electrode	Operating temperature range
K ---	Polypropylene	Foil	-55°C to +105°C
L ---	Polypropylene	Metallized polypropylene	-55°C to +105°C

"

TABLE III, add the following:

"

Symbol	DC voltage rating
J	25
K	250
L	800

"

PAGE 5

TABLE VI, add the following:

"

Capacitance	Minimum insulation resistance (terminal to terminal)
Characteristics K and L	At +25°C
0 to .5 µF	400,000 megohms
Greater than 1 µF	200,000 megohm-microfarads 1/
	At +85°C
0 to .5 µF	20,000 megohms
Greater than 1 µF	10,000 megohm-microfarads 1/
	At +105°C
0 to .5 µF	2,000 megohms
Greater than 1 µF	1,000 megohm-microfarads 1/

"

PAGE 6

FIGURE 1, delete and substitute new figure 1 as printed on page 6 of this amendment.

PAGE 7

TABLE VIII, add the following:

"

Characteristic	Dissipation factor at				
	+25°C	+85°C	+105°C	+125°C	+150°C
K	0.1	0.1	0.1	---	---
L	0.1	0.1	0.1	---	---

"

PAGE 8

TABLE IX, add the following:

"

Characteristic	Capacitance change (in percent) from +25°C value				
	-55°C	+85°C	+105°C	+125°C	+150°C
K 1/	0 to +2.0	0 to -1.5	0 to -2.0	---	---
L	0 to +2.0	0 to -2.5	0 to -3.5	---	---

1/ 800 volt units shall be @ -55°C 0 to +2.0, @ +85°C 0 to -2.5, @ +105°C 0 to -3.5."

PAGE 9

4.1.1, delete and substitute:

"4.1.1 Reliability assurance program. A reliability assurance program shall be established and maintained in accordance with MIL-STD-790; 'Program implementation' exceptions are as follows:

a. Under 'Description of production processes and controls', the procedure for identification of each production lot shall include only 'the manufacturer shall as a minimum be able to identify the time period during which the final production operation was performed on each item of product prior to final test. The date or lot code marked on each part shall be identified to a production lot.'

b. 'Traceability' of materials shall not apply.

Evidence of such compliance shall be verified by the qualifying activity of this specification as a prerequisite for qualification and continued qualification."

PAGE 11

TABLE X, group I: Delete "AC conditioning (when specified, see 3.1)" and associated requirement and test method paragraph references. Also, group III, delete and substitute as follows:

Inspection	Requirement paragraph	Test method paragraph	Number of sample units to be inspected 1/	Number of failures allowed 2/
Group III				
Solderability - -	3.19	4.7.15	6	0
AC conditioning - (when specified, see 3.1)	3.9	4.7.5		

PAGE 14

4.6.2.1.1.1, delete "(characteristics Q, R, S, and T)" and substitute "(characteristics K, L, Q, R, S, and T)".

PAGE 15

4.7.6c, delete and substitute:

"c. Two minutes maximum; however, for capacitance values greater than 1 µF an additional 1 minute per µF is permitted."

PAGE 16

4.7.8c, delete and substitute:

"c. Test during subjection to reduced pressure - 150 percent of rated voltage (characteristics M, Q, and S), or 140 percent of rated voltage (characteristics K, L, N, R, and T) shall be applied between the terminals for not less than 1 minute."

4.7.11b, delete and substitute:

"b. Test condition - C."

PAGE 17

4.7.14, add the following:

"Test condition - A (lugs) - 10 pounds for 1 minute."

TABLE XIII, delete and substitute:

" TABLE XIII. Capacitance measurements.

Step	Temperature
1	-55°C ±3°C
2	+25°C ±5°C
3	+85°C ±3°C
4	+105°C ±3°C
5	+125°C ±3°C 1/ 2/ 3/
6	+150°C ±3°C 4/
7	+25°C ±5°C

1/ Not applicable to characteristics K, L, M, and N capacitors.
2/ When measuring insulation resistance at +125°C, the applicable derated voltage shall be used (see 3.1).
3/ Voltage derating not applicable for characteristic T capacitors.
4/ Not applicable to characteristics K, L, M, N, Q, R, and S capacitors.

NOTE: The capacitance measurement at each temperature shall be recorded when two successive readings, taken at 5-minute intervals, indicate no change in capacitance."

4.7.19.1c, delete and substitute:

"c. Operating conditions - DC rated voltage shall be applied to the capacitors being tested under rated conditions; characteristics K, L, N, R, and T capacitors shall be subjected to 125 percent of the +85°C rated voltage; characteristics M, Q, and S capacitors shall be subjected to 140 percent of the +85°C rated voltage for units tested under accelerated conditions. The surge current shall be limited to 1 ampere. When necessary, a suitable current-limiting resistor shall be inserted into the circuit. Means shall be provided to assure that the full required voltage is applied to the capacitor when current-limiting resistors are used. Radiation shall not be used as a means of heating the chamber."

TABLE XIV, add the following at the end of table:

"

Style	Type designation	Sample size
CFR12	CFR12RRA563GM	61
	CFR12RRG273GM	61
	CFR12RRH822GM	61
	CFR12RRK332GM	61
CFR13	CFR13ALB306JM	61
	CFR13ALC206JM	61
	CFR13ALE106JM	122
CFR14	CFR14LLB306JM	61
	CFR14LLC206JM	61
	CFR14LLE106JM	122
CFR15	CFR15AKC105JM	61
	CFR15AKE105JM	61
	CFR15AKF105JM	61
	CFR15AKL564JM	61
CFR16	CFR16RRA683GM	61
	CFR16RRA184GM	61
	CFR16RRA224GM	61
	CFR16RRA105GM	61

"

NOTE: The margins of this amendment are marked with asterisks to indicate where changes (additions, modifications, corrections, deletions) from the previous amendment were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notation and relationship to the last previous amendment.

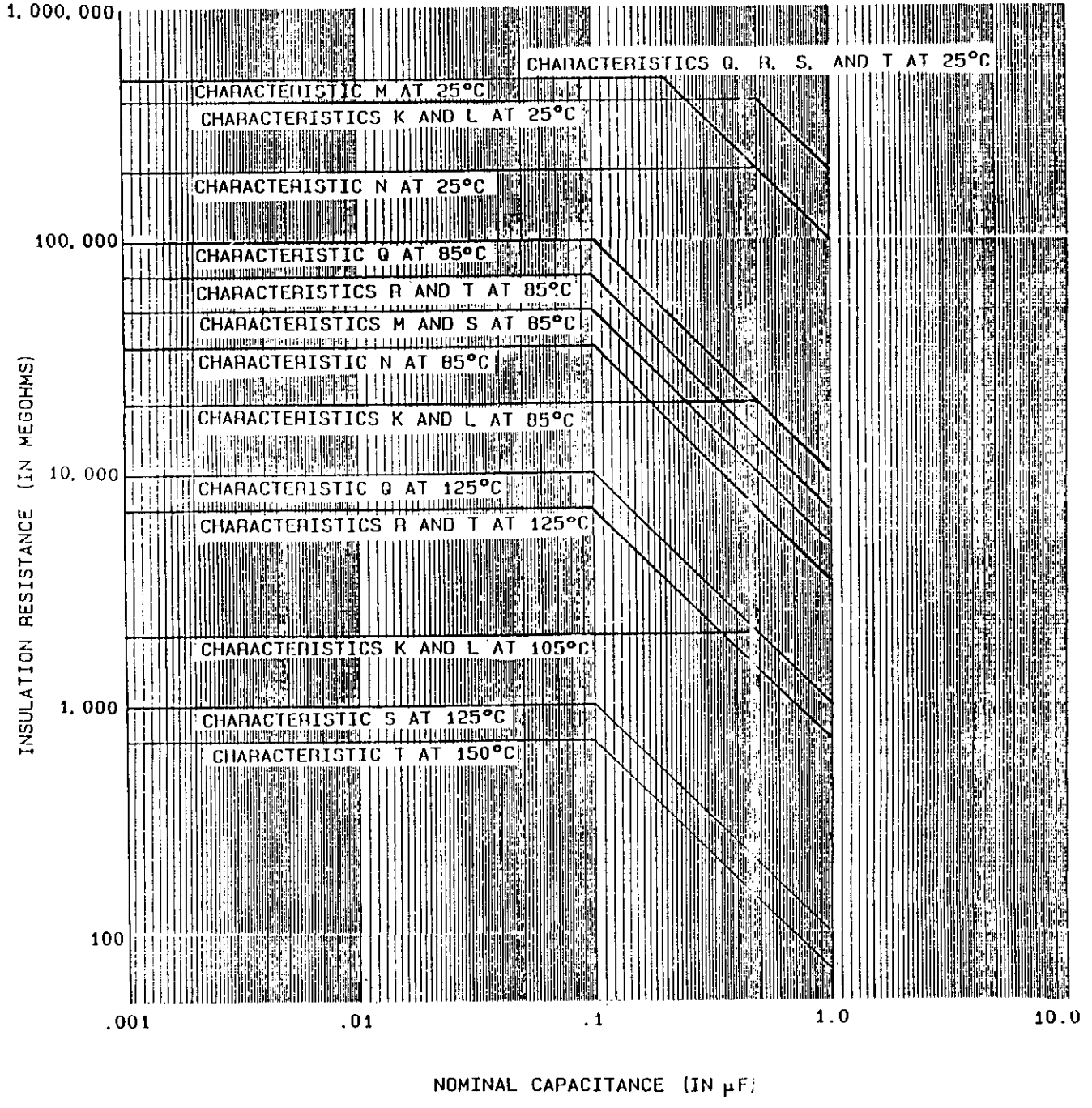

FIGURE 1. Graphical representation of minimum insulation resistance.

CONCLUDING MATERIAL

Custodians:
Army - ER
Navy - EC
Air Force - 85

Review activities:
Navy - OS
Air Force - 17, 99
DLA - ES

User activities:
Navy - AS, MC
Air Force - 11, 19

Preparing activity:
Army - ER

Agent:
DLA - ES

(Project 5910-1699)